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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/507,933	09/16/2004	Eunyoung Kim	DE1580	5051
7590 08/23/2006			EXAMINER	
David A Einhorn Anderson Kill & Olick 1251 Avenue of the Americas New York, NY 10020			ZIMMER, MARC S	
			ART UNIT	PAPER NUMBER
			1712	

DATE MAILED: 08/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/507,933	KIM ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Marc S. Zimmer	1712	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 June 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☒ Claim(s) 1-8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                                             |                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                                 | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                        | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>06/12/06</u> | 6) <input type="checkbox"/> Other: _____                                                |

***Claim/Specification Objections***

Both the claims and specification are objected to because the spacing of the description is such that it is difficult to ascertain what structural units are associated with what variables. For instance, while it is believed that the C(O), S=P-R<sup>7</sup>, R<sup>9</sup>-C-R<sup>8</sup>, and the triazine moiety are all embodiments of X<sup>1</sup>, it is also possible that Applicant had intended that they be embodiments of R<sup>2</sup>/R<sup>3</sup>. The difficulty arises from the fact that these variables are disclosed in a line between those wherein R<sup>2</sup>/R<sup>3</sup> are described and that wherein X<sup>1</sup> is defined. Likewise, it is not entirely clear that the aromatic moieties -X<sup>4</sup>-Ph and -Ph-X<sup>5</sup> are embodiments of X<sup>2</sup>/X<sup>3</sup> or R<sup>7</sup>. It is expected that Applicant will redo these parts with proper spacing so that there is no ambiguity as to what definition these units belong to.

Claim 1 is further objected to because, there is a period at the end of the line that precedes formula (II). This should be replaced with a semicolon.

***Election of Species***

Applicant's election of the invention wherein the binder is a siloxane precursor sol, claims 1-3 and 6-8 is sincerely appreciated.

Although claims 4 and 5 had been withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention in view of Applicant's election, they have been rejoined because the Examiner was unable to locate prior art that anticipated/rendered obvious the elected embodiment. The paragraphs that follow provide a basis of rejection for the embodiment wherein the binder is a transparent resin.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The use of Trade Names to delineate an aspect of the claimed invention renders a claim indefinite.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 and 6-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Morgan et al., U.S. Patent # 4,605,465. Morgan teaches a curable composition comprising the materials outlined in column 3, lines 16-46. Among the thermoplastics suitable for use in the practice of their invention are the transparent materials PVC, polystyrene, and ethylene-methyl acrylate according to column 4, lines 16-40. Specific embodiments of the acrylic monomer (column 3, line 23) are not provided except in the Examples. Nonetheless, diacrylates of the variety required by Applicant's claims are clearly embraced by that formula. Master Batch 8 at the top of column 10 is of particular interest to the present assessment as it comprises hexanediol diacrylate which corresponds to the (meth)acryl compound of formula (I) wherein  $X^1$  is  $R^9-C-R^8$ ,  $R^8/R^9=H$ , and  $R^2/R^3$  are alkylene. Master Batch 8 also comprises two transparent resins, PVC and a polyester resin, a thermal initiator and Darocur. The dual cure composition is first

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subjected to actinic irradiation for a short time and then cured at elevated temperature to produce the cured product (see column 8, line 59 through column 9, line 20 and the Examples.

Claim 3 is rejected only because it further limits an embodiment of Applicant's invention that does not the represent the Examiner's foundation for holding the claims as unpatentable.

Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Vaidya et al., U.S. Patent # 6,001,893. They disclose a clear topcoat composition comprising a polymerizable material and a polymer binder (column 2, line 65 through column 4, line 5. While it is appreciated that ethoxylated trimethylolpropane triacrylate is mentioned as the preferred polymerizable compound, there are, nonetheless, diacrylates adhering to formula (I) that are contemplated in column 11, lines 27-46. "Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments." *In re Susi*, 440 F.2d 442, 169 USPQ 423 (CCPA 1971). A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art, including nonpreferred embodiments. *Merck & Co. v. Biocraft Laboratories*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), *cert. denied*, 493 U.S. 975 (1989).

Concerning claim 5, an overlapping list of solvents is outlined in column 13, lines 46-60.

Claim 3 is, again, rejected only because it further limits an embodiment of Applicant's invention that does not the represent the Examiner's foundation for holding the claims as unpatentable.

As for claim 7, precise curing conditions do not appear to be volunteered by the reference. However claim 7 is a product by process claim. "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the

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product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process" *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). The reference does describe the application of a topcoat comprising materials similar to those in claim 1 and forced heat drying though the conditions are unclear. It is the Examiner's position that this operation will provide a film identical to that obtained by the process steps disclosed in claim 7.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morgan et al., U.S. Patent # 4,605,465. Morgan does not expressly disclose a solvent. Nevertheless, their employment to adjust the viscosity of a polymer composition is practiced ubiquitously in the art. Further, the selection of a proper solvent based on the solubilities of the polymer and other materials, and in consideration of environmental/safety preferences, is well within the capabilities of one having ordinary skill.

Applicant is advised that the Examiner is inclined to agree with the assessment of the patentability of the claims over other references cited by a foreign office. Indeed, there seem to

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be many disclosures that would anticipate at least some embodiment of the inventions embraced by claims 1 to 8. For brevity, and to prevent redundancies, none of these will be cited in a statement of rejection.

Talase et al., U.S. Patent Application Publication No. 2005/0256219 and Soane et al., U.S. Patent Application Publication No. 2002/0132928 are cited as being of general interest. The article authored by Lee et al. and published in Mol. Cryst. Liq. Cryst (1997), 294, 229-232 is cited as being of interest for its description of a sol equivalent to that used as Applicant's first embodiment of the binder, the sol having been derived from (i) the product obtained by reacting isocyanatopropyltriethoxysilane and monomethoxy-terminated poly(ethylene glycol) and (ii) TEOS.

It appears that Applicant could make the claims allowable by removing mention of the transparent polymer resin as an embodiment of the binder.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc S. Zimmer whose telephone number is 571-272-1096. The examiner can normally be reached on Monday-Friday 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

July 30, 2006

  
**MARC S. ZIMMER**  
**PRIMARY EXAMINER**